

M E M O R A N D I

TO: STEVEN C. PARRISH
FROM: WILLIAM W. DAVIS, EXT. 2365
DATE: MARCH 29, 1990
RE: COMMENTS ON THE VARELA DISSERT.

At your request, I have listed below a number of possible challenges to the dissertation. Most of these questions appear in our consultant evaluations of the dissertation. Complete copies of those evaluations are attached to this memo. Also attached are the results from the search on copyright registration.

Questions/Challenges/Criticisms:

1. Since raw data are lacking, we must assume the statistics have been correctly calculated from the database;
2. In order to achieve the desired sample size, the author combined never and former smokers -- this may introduce confounding of smoking histories;
 - a. The follow-up rate for cases-controls was 76%, a percentage greater than other studies but still less than complete;
 - b. There were differences in amount smoked between (former smoking) cases and controls. Former smokers smoked more than cases. This may or may not have adversely affected the results;
3. In 73 subtests for statistical significance, only one was significant -- one would expect to find 2-5 significant results on the basis of chance alone. This may raise a red flag to critics;
4. There is an inverse relationship reported between exposure to ETS in social situations and lung cancer risk. This may provoke critics to dismiss the analysis out-of-hand, because it appears to suggest that ETS has a "protective" effect on "social" individuals.

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5. Cases and controls differed in occupational exposures, and this variable was not considered as a possible confounder;
6. There is a statistically significant relationship reported for exposure to household smokers (150 or more person/years of exposure) and lung cancer for the total study group, for self and proxy-respondents, for ex-smokers and for epidermoid/small cell carcinoma. Varela suggests that the risk appears to increase with increasing exposure (dose-response).
 - a. On pp. 146-147, the author notes the similarity of mechanisms regarding direct smoking and ETS exposure with the incidence of epidermoid and small cell tumors.
 - b. Varela notes, p. 154, that "these results" are "consistent with the existence of a small to moderate effect of passive smoking on lung cancer risks." Varela further suggests that an ETS effect may become detectable "if exposure from different sources were to accumulate" (p. 143).
7. The author also notes that a "residual effect due to past smoking habits was found." Elsewhere, the author remarks that "men acquire lung cancer as a consequence of their own smoking" (pp. 131-132).

(For a detailed discussion of comments regarding the primary issue, see Kit Warner's memo of 3/16/90).

Summary:

These are the major rejoinders to the study, none of which, in my opinion, seriously compromise the study's conclusions. There is one additional possible challenge to the dissertation, however, and it concerns the "unpublished" status of the work. My understanding is that the dissertation, or parts of it, had been submitted for publication and subsequently rejected. The obvious reply to this is that we do not know why the dissertation was rejected, but that any dissertation which is accepted as part of the requirements for a doctorate degree has been "peer reviewed" by the dissertation committee, which generally consists of three to five departmental members, one or two additional individuals from other related academic areas and the dissertation advisor.

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